

# Work Order ID 55534

January 19, 2010 3:47:10 PM

Page 1

Item ID: D4054-001

Accept

Setup Start

Revision ID:

Stop

Item Name: Tube Assembly

Start Date: 1/19/10 Start Qty: 6.00

Cust Item ID:

Required Date: 1/25/10 Req'd Qty: 6.00

Customer:

Reference:

Approvals: Process Plan:

Date: 10-1-19 Tooling:

Date:

Run Start

QC:

Date: SPC (Y/N):

Date:

Stop


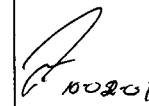
Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4054	A								
100	Small Fab	0.00							
Small Fab	Memo	0.00							
Small Fab	Bend tube as per Dwg D4054								
	Install sleeves and nuts								
	Flare ends as per Dwg D4054.								
110	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									

6x

> = 7 m-h 10/02/02

8.10.2008

70

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
10-02-01	100	Add DT 9577-1 & -2 to memo. DT 9577-1: cut to length. DT 9577-2: Bend per					

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

**Work Order ID 55534**

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Page 2

Item ID: D4054-001

Accept

Setup Start

Revision ID:

Stop

Item Name: Tube Assembly

Start Date: 1/19/10 Start Qty: 6.00

Required Date: 1/25/10 Req'd Qty: 6.00

Cust Item ID:

Customer:

Reference:

Run Start

Approvals: Process Plan:

Date:

Tooling:

Date:

Stop

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

Identify as per dwg & Stock Location: MC

0.00



Packaging

Memo

0.00

Packaging

10/14/11 (6)

130

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/02/11

10/02/11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

January 19, 2010 3:47:14 PM

Page 1

Work Order ID: 55534



Parent Item: D4054-001

Parent Item Name: Tube Assembly

Start Date: 1/19/10

Required Date: 1/25/10

Comments: IPP rev A 10.01.19 new issue EC verified by:DD

Start Qty: 6.00

Required Qty: 6.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
M6061T6T0.500W.049		Purchased	No			100	f	128.1400	11.2421			
6061-T6 RD Tube .500 x.049W												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

MAT

128.14

111028

37.53

111944 ✓

90.61

m-h

10/01/22

11-2421

Batch: M112612

(DX)

m-h 10/01/22 \*

Batch: M112492

(2X)

m-h 10/01/22 \*

M113795

(9X)

m-h 10/02/02 \*

M113422

(1X)

m-h 10/02/02 \*

M10.01.20

M520819-8A  
Sleeve

qty 2

AN818-8A  
Nut

qty 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



ITEM NO.	QTY	P/N	DESCRIPTION
1	X	D4054-001	TUBE ASSEMBLY
2	2	MS20819-8D	SLEEVE
3	2	AN818-8D	NUT

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED  
SUBJECT TO AMEND  
WITHOUT NOTIC  
WORK ORDER  
NO. 53534  
RD/104-19

**RELEASED**  
2010-01-14  
MP

# **D4054-001 TUBE ASSEMBLY**

## **NOTES:**

- 1) MATERIAL: 6061-T6 SEAMLESS ALUMINUM TUBING 0.500 O.D. x 0.049 WALL  
PER WW-T-700/6  
REF DART SPEC M6061T60.500W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4054-001" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.20 lbs
- 8) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATE D4054-001T1
- 9) TUBES TO BE FLARED 37° TO MATE WITH MS33514 FITTINGS, TYPICAL
- 10) ENSURE SEAMLESS TUBING IS USED

A	NEW ISSUE	RF	09.12.30
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<u>ES</u>	DRAWING NO.	REV. A
MFG. APPR.	<u>ES</u>	D4054	SHEET 1 OF 3
APPROVED	<u>MP</u>	TITLE	SCALE
DE APPR.	<u>MP</u>	TUBE ASSEMBLIES	NTS
DATE	09.12.30	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

**Dart Aerospace Ltd**

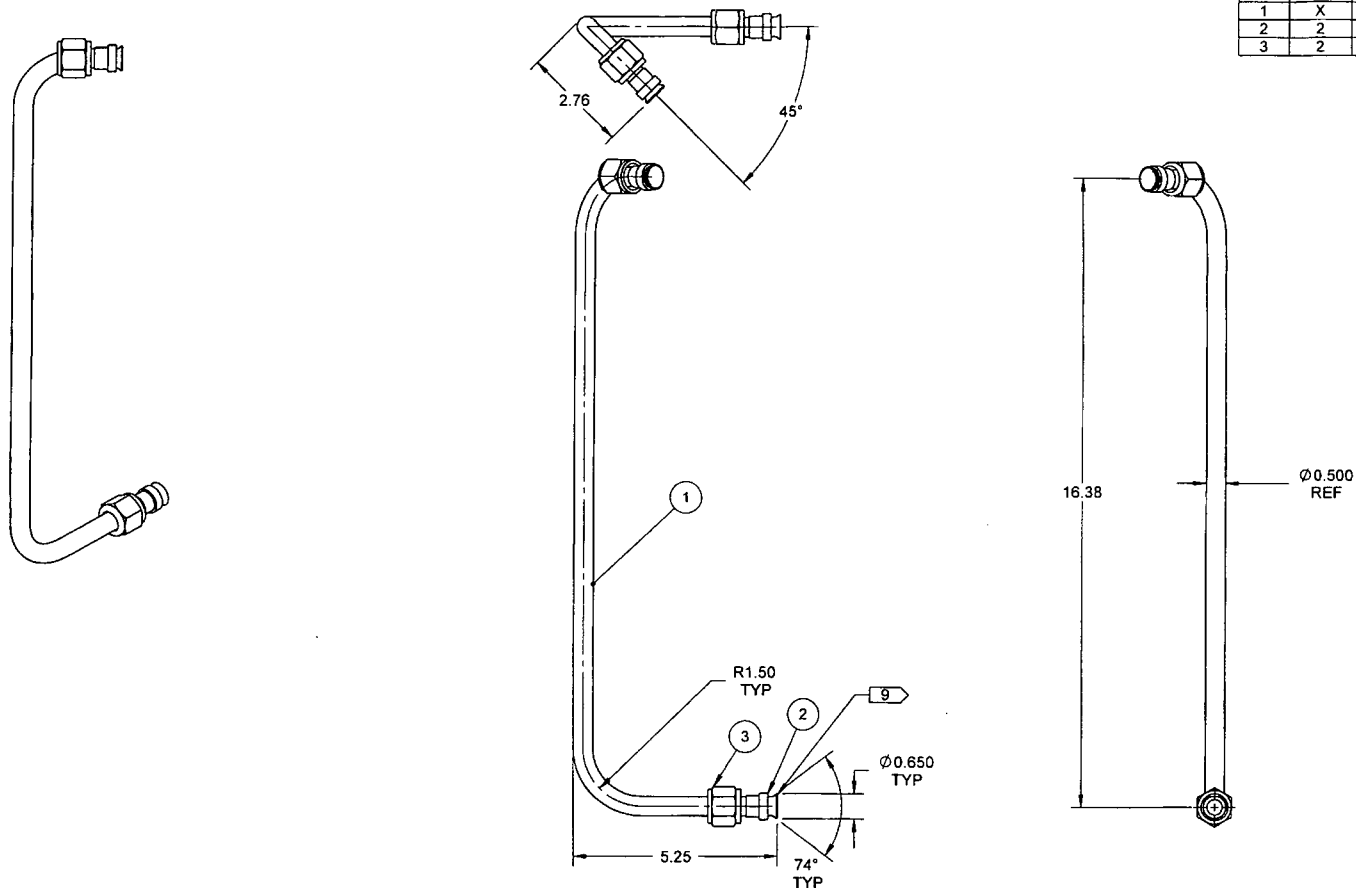
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

ITEM	QTY -003	P/N	DESCRIPTION
1	X	D4054-003	TUBE ASSEMBLY
2	2	MS20819-8D	SLEEVE
3	2	AN818-8D	NUT



RELEASED  
2010-01-14  
mp

# NOTES:

- 1) MATERIAL: 6061-T6 SEAMLESS ALUMINUM TUBING 0.500 O.D. x 0.049 WALL  
PER WW-T-700/6  
REF DART SPEC M6061T60.500W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4054-003" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.21 lbs
- 8) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATE D4054-003T1
- 9) TUBES TO BE FLARED 37° TO MATE WITH MS33514 FITTINGS, TYPICAL
- 10 ENSURE SEAMLESS TUBING IS USED

## D4054-003 TUBE ASSEMBLY

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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CHECKED	RF	DRAWING NO.	REV. A
MFG. APPR.	RF	D4054	SHEET 2 OF 3
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	TUBE ASSEMBLIES	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

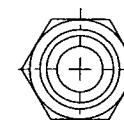
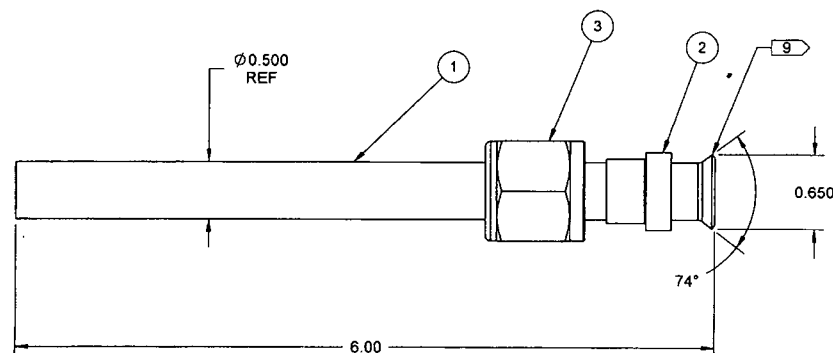
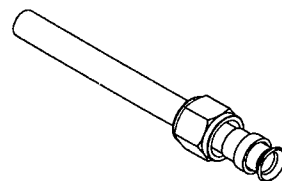
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

ITEM	QTY -009	P/N	DESCRIPTION
1	X	D4054-009	TUBE ASSEMBLY
2	1	MS20819-8D	SLEEVE
3	1	AN818-8D	NUT



### D4054-009 TUBE ASSEMBLY

#### NOTES:

- 1) MATERIAL: 6061-T6 SEAMLESS ALUMINUM TUBING 0.500 O.D. x 0.049 WALL  
PER WW-T-700/6  
REF DART SPEC M6061T60.500W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4054-009" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.07 lbs
- 8) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATE D4054-009T1
- 9) TUBES TO BE FLARED 37° TO MATE WITH MS33514 FITTINGS
- 10) ENSURE SEAMLESS TUBING IS USED

RELEASED  
2010-01-14

W/0 55534

DESIGN	RF	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO. D4054	REV. A
MFG. APPR.	<i>[Signature]</i>	SHEET 3 OF 3	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	TUBE ASSEMBLIES	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries